ABSTRACT

A system applies cardiopulmonary resuscitation (CPR) to a recipient. An automated controller is provided together with a compression device which periodically applies a force to a recipient's thorax under control of the automated controller. A band is adapted to be placed around a portion of the torso of the recipient corresponding to the recipient's thorax. A driver mechanism shortens and lengthens the circumference of the band. By shortening the circumference of the band, radial forces are created acting on at least lateral and anterior portions of the thorax. A translating mechanism may be. provided for translating the radial forces to increase the concentration of anterior radial forces acting on the anterior portion of the thorax. The driver mechanism may comprise a tension device for applying a circumference tensile force to the band. The driver mechanism may comprise an electric motor, a pneumatic linear actuator, or a contracting mechanism defining certain portions of the circumference of the band. The contracting mechanism may comprise plural fluid-receiving cells linked together along the circumference of the band. The width of each of the fluid-receiving cells becomes smaller as each cell is filled with a fluid. This causes the contraction of the band and a resulting shortening of the circumference of the band.